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# Taber's CYCLOPEDIA MEDICAL DICTIONARY

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PHILADELPHIA

## electric shock

tact or to remove wire from patient. It is always preferable to turn off the current if possible. If patient is in water, remember that it is electrically charged and special precautions must be taken. On a humid or rainy day ordinary insulators may contain sufficient moisture to conduct electricity. Make sure insulators are dry.

High tension currents, such as those used about x-ray equipment or in conducting currents for long distances or for special industrial locations cannot be insulated by such means. Such currents may jump through rubber, paper, or strips of wood. A safe procedure is to ascertain the source of current and have it shut off, otherwise multiple tragedies result. **TREATMENT.** SEE: *electric shock*.

**e. shock.** SYM. Burns, with loss of consciousness; contact or proximity to source of current are principal symptoms.

**F. A. TREATMENT.** Carefully free victim from source of current with nonconductors such as dry wood, paper, rubber, etc., or shut off current. Prolonged artificial respiration may be necessary. SEE: *resuscitation; shock*.

**electricity.** A form of energy which exhibits magnetic, chemical, mechanical, and thermal effects. Composed of two parts: positive which is protons and negative which is electrons.

**e. frictional.** Generation of static e. by rubbing two articles together.

**e. galvanic.** E. generated by chemical action.

**e. induced.** E. generated in a body from another body close by, without contact.

**e. magnetic.** E. induced by means of a magnetic device.

**e. negative.** Electric charge caused by an excess of electrons negatively charged.

**e. positive.** Electric charge caused by loss of negative electrons.

**e. static.** E. generated by friction of certain materials.

**e., unit of.** SEE: *ampere; coulomb; farad; ohm; volt*.

**electricity** (Gr. *elektron*, amber, + *L. facere*, to make). To charge a body with electricity.

**electrification.** The act of charging or treating by use of electricity.

**electro-, electr-** (Gr. *elektron*, amber). Prefix indicating relationship to electricity.

**electroanalgesia** [" + *analgesia*, want of feeling]. Producing relief from pain by using low intensity electrical currents applied locally or through implanted electrodes.

**electroanesthesia** (e-lēk'trō-ān'-es-the-zī-ā) [" + *an*, not, + *anesthesia*, sensation]. 1. Local anesthesia induced by an anesthetic

## E-13

### electrocision

ing substance injected into tissues by electricity. 2. General anesthesia produced by a frequency which passes electricity of a certain frequency, amplitude, and wave form through the brain. Has been used experimentally in both the U.S.S.R. and U.S.A.

**electrobiol'ogy** [" + *bios*, life, + *logos*, study of]. Science of electric phenomena in the living body.

**electrobioscopy** [" + *skopein*, to examine]. Electric test to determine if life is present.

**electrocardiogram** (e-lēk'trō-kār-di-gram) [" + *kardia*, heart, + *gramma*, writing]. A record of the electrical activity of the heart, shows certain waves called P, Q, R, S, and T waves. Sometimes a U wave is seen.

The first or P wave is caused by contraction of the atria. During this time the heart muscle is electrically polarized and then depolarized. The Q, R, S, and T waves are related to contraction of the ventricles. The cause of the U wave is unknown. The electrocardiogram gives important information concerning the spread of excitation to the different chambers of the heart and it is of value in the diagnosis of cases of abnormal cardiac rhythm and myocardial damage. ABBR: ECG, EKG.

**electrocardiograph** (e-lēk'trō-kār-di-gram) [" + *graphēin*, to write]. Device for recording electrical variations in action of heart muscles.

**electrocardiography.** The making and study of graphic records (electrocardiograms) produced by electrical currents originating in the heart.

**electrocardiophonograph** (e-lēk'trō-kār-di-o-fō-nō-grāf) [Gr. *elektron*, amber, + *kardia*, heart, + *phoné*, sound, + *graphēin*, to write]. Device for recording heart sounds.

**electrocatalysis** (e-lēk'trō-kā-tī-sis) [" + *kata*, down, + *lysis*, loosening]. Chemical decomposition produced by electricity.

**electrocautery** (e-lēk'trō-kaw'tēr-i) [" + *kauterion*, branding iron]. Cauterization by means of an apparatus consisting of a holder containing a wire, which may be heated to a red or white heat by a current of electricity, either direct or alternating.

**electrochemistry** [" + *chemia*, chemistry]. Science of chemical changes produced by electricity.

**electrochemistry.** Therapy concerned with physical applications, such as electricity, which produce chemical effects in the tissues.

**electrocision** (e-lēk'trō-sizh-ūn) [Gr. *elektron*, amber, + *L. caedere*, to cut]. Excision by electric current.

## E-14

### electrolysis

tissue by means of long high-frequency electric sparks.

**electrodiagnosis.** Use of electric and electronic devices for diagnostic purposes. Their use is helpful in almost all branches of medicine, but particularly in investigating function of nerves and muscles.

**electrodialysis** (e-lēk'trō-dī-āl-i-sis) [" + *dial*, apart, + *lysis*, dissolving]. (pl. -ses) A method of separating electrolytes from colloids by passing a current through a solution containing both.

**electrodynamometer** (e-lēk'trō-dī-nāmōm-ē-tēr) [" + *dynamis*, power, + *metron*, measure]. An instrument to measure the strength of an electric current.

**electroencephalogram** (e-lēk'trō-ēn-sēf-ā-lō-grām) [Gr. *elektron*, amber, + *enkephalos*, in the head, brain, + *gramma*, a writing]. A tracing on an electroencephalograph. ABBR: EEG.

**electroencephalograph** (e-lēk'trō-ēn-sēf-ā-lō-grāf) [" + *graphēin*, to write]. An instrument for recording electrical activity of the brain. SEE: *electroencephalography*.

**electroencephalography.** Amplification, recording, and analysis of the electrical activity of the brain. The record obtained is called an electroencephalogram (EEG).

Electrodes are placed on the scalp in various locations. The difference between the electrical potential of two sites is recorded. The potential between a pair at a time or between many pairs can be obtained simultaneously. The most frequently seen pattern in the normal adult under resting conditions is the alpha rhythm of 8 1/2-12/seconds. A characteristic change in the wave occurs during sleep, upon opening the eyes, and during mental attention.

Some persons who have intracranial disease will have a normal EEG and others with no otherwise demonstrable disease will have an abnormal EEG. Nevertheless the use of this diagnostic technique has proven to be very helpful in studying epilepsy and convulsive disorders and in localizing lesions in the cerebrum. SEE: *rhythm, alpha rhythm, beta*.

**electrohemostasis** (e-lēk'trō-hē-mōs-tā-sis) [" + *haima*, blood, + *stasis*, standstill]. The arrest of bleeding by means of a high-frequency current.

**electrology** [" + *logos*, science]. The branch of science that deals with the phenomena and properties of electricity.

**electrolysis** (e-lēk'trō-lī-sis) [" + *lysis*, dissolution]. The decomposition of a substance by passage of an electrical current through it.

**electrocoagulation** (e-lēk'trō-kō-āg-ū-lā-shūn) [" + *L. coagulare*, to thicken]. Coagulation of tissue by means of a high frequency electric current. The heat producing the coagulation is generated within the tissue to be destroyed.

**electrocontractility** (e-lēk'trō-kōn-trāk-tī-lī-ti) [" + *L. contrahere*, to contract]. Contraction of muscular tissue by electrical stimulation.

**electrocryptectomy** (e-lēk'trō-krip-tēk'tō-mī) [" + *kryptos*, concealed, + *ektomē*, excision]. Destruction of tonsillar crypts by diathermy.

**electrocution** [Gr. *elektron*, amber, + *excutē*]. The destruction of life by means of electric current.

**electrocystoscopy** (e-lēk'trō-sis-tōs-kō-pi) [" + *kystis*, bladder, + *skopein*, to examine]. The use of electric light to see the interior of the bladder.

**electrode** (e-lēk'trōd) [" + *hodos*, way]. A medium intervening between an electric conductor and the object to which the current is to be applied. In electrotherapy an electrode is an instrument with a point or a surface from which to discharge current to the body of a patient.

**e. brush.** A wire brush used to apply electricity to a part of the body.

**e. depolarizing.** E. with greater resistance than the part of the body in the circuit.

**e. dispersive.** When e. is may be applied in pairs dissimilar in size and shape, then the smaller e. is called the active, and the larger, the dispersive, indifferent, or inactive e.

**e. hydrogen.** Form absorbing hydrogen gas.

**e. indifferent.** SEE: *e. dispersive*.

**e. multiple point.** Several sets of terminals providing for the use of several electrodes. SEE: *multiterminal*.

**e. negative.** Cathode.

**e. point.** An e. with an insulating handle at one end and a metallic point at the other for use in applying static sparks.

**e. positive.** Anode.

**e. spark ball or point.** An insulating handle having on one end a metallic ball or point. Used in giving static sparks.

**e. therapeutic.** E. for introduction of medicines through the skin by ionization. SEE: *iontophoresis*.

**electrodesiccation** (e-lēk'trō-dēs-tī-kā-shūn) [Gr. *elektron*, amber, + *L. desiccāre*, to dry up]. The destructive drying of cells and tissue by means of short high-frequency electric sparks, in contradistinction to fulguration, which is the destruction of